

Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
ILLINOIS, South				
WILLIAMSON COUNTY --- HERRIN [37.80, -89.03]				
	06/01/13 00:15 CST		25K	Thunderstorm Wind (EG 52 kt)
	06/01/13 00:15 CST		0	Source: Trained Spotter
Shingles were blown off roofs. Three to six-inch diameter limbs were blown out of trees at the north end of town.				
WILLIAMSON COUNTY --- CARTERVILLE [37.75, -89.08], 3.5 S CRAINVILLE [37.70, -89.07]				
	06/01/13 00:20 CST		10K	Thunderstorm Wind (EG 52 kt)
	06/01/13 00:30 CST		0	Source: Broadcast Media
Winds gusted to 60 mph from Carterville across southwest Williamson County, resulting in downed tree limbs and power outages.				
FRANKLIN COUNTY --- BENTON [38.00, -88.92]				
	06/01/13 00:30 CST		3K	Heavy Rain
	06/01/13 01:30 CST		0	Source: Emergency Manager
Vehicles stalled on a few water-covered roadways throughout the city.				
WILLIAMSON COUNTY --- 1.2 NNW ABSHER [37.70, -88.74]				
	06/01/13 00:55 CST		10K	Thunderstorm Wind (EG 52 kt)
	06/01/13 00:55 CST		0	Source: Emergency Manager
In a very rural area of extreme southeast Williamson County, several trees were blown down and one pole barn was damaged.				
MASSAC COUNTY --- 2.4 SSE ROUND KNOB [37.22, -88.73], METROPOLIS [37.15, -88.73]				
	06/01/13 02:00 CST		3K	Heavy Rain
	06/01/13 12:00 CST		0	Source: Trained Spotter
A spotter near Round Knob measured 4.87 inches of rain. The majority of the heavy rain fell in a six-hour window ending at 0800 Local Standard Time. There was considerable street flooding in Metropolis. Two cars were flooded with about three inches of water in them.				
ALEXANDER COUNTY --- CAIRO [37.00, -89.18]				
	06/01/13 02:30 CST		0	Heavy Rain
	06/01/13 05:31 CST		0	Source: Broadcast Media
A rainfall of 3.97 inches accumulated in less than four hours.				
A mesoscale convective system that originated over the Missouri Ozarks maintained strength as it moved through the middle Mississippi Valley during the overnight hours. Isolated wind damage accompanied this system. The system slowed down and then stalled as it crossed the Lower Ohio Valley very early in the morning. The stalled thunderstorm complex produced heavy rainfall amounts in extreme southern Illinois.				
ALEXANDER COUNTY --- THEBES [37.22, -89.47], 0.9 WNW THEBES JCT [37.20, -89.46], 0.7 NW THEBES JCT [37.21, -89.46], 0.5 ESE THEBES [37.22, -89.46]				
	06/01/13 04:00 CST		40K	Flood (due to Heavy Rain)
	06/24/13 02:00 CST		0.15M	Source: River/Stream Gage
Major flooding occurred along the Mississippi River near Thebes. There was extensive flooding of low-lying agricultural land, riverside parks, and river access roads. Many farmers had not yet planted due to the prolonged spring flooding, so crop losses were minimal. The river crested at 43.62 feet on the Thebes river gage on the 7th. Flood stage there is 33 feet.				
WAYNE COUNTY --- WAYNE CITY [38.35, -88.58], 3.0 E MAYBERRY [38.27, -88.49], 2.4 W BARNHILL [38.27, -88.41], 2.0 S SIMS [38.34, -88.52]				
	06/01/13 07:00 CST		5K	Flood (due to Heavy Rain)
	06/04/13 05:00 CST		0	Source: River/Stream Gage
Minor flooding occurred along the Skillet Fork River in the Wayne City area. Low-lying fields, woodlands, and river access roads were flooded.				
JACKSON COUNTY --- 2.1 WSW MURPHYSBORO [37.76, -89.37], 2.2 W MT CARBON [37.76, -89.37], 1.2 W MT CARBON [37.75, -89.35], 1.4 WNW MT CARBON [37.75, -89.35]				

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	06/02/13 08:00 CST		10K	Flood (due to Heavy Rain)
	06/16/13 04:00 CST		10K	Source: River/Stream Gage

Moderate flooding occurred along the Big Muddy River at and near Murphysboro. Riverside parks, access roads, and low-lying fields were flooded. The river crested at 30.75 feet on the Murphysboro river gage on the 6th. Flood stage there is 22 feet.

WHITE COUNTY --- 2.6 ENE BROWNSVILLE [38.04, -88.21], 2.9 SSW CARMi [38.04, -88.18], 1.7 SSE CARMi MUNI ARPT [38.08, -88.14], 1.2 SW CARMi [38.07, -88.18]

06/03/13 09:00 CST	2K	Flood (due to Heavy Rain)
06/15/13 02:00 CST	10K	Source: River/Stream Gage

Minor flooding occurred along the Little Wabash River near Carmi. There was minor flooding of low-lying fields and river access roads.

FRANKLIN COUNTY --- 1.4 E ZEIGLER [37.90, -89.02], 1.3 SSE ZEIGLER [37.88, -89.04], 2.1 S ZEIGLER [37.87, -89.06], 1.1 W PLUMFIELD [37.88, -89.02]

06/03/13 12:00 CST	0	Flood (due to Heavy Rain)
06/16/13 04:00 CST	10K	Source: River/Stream Gage

Minor flooding occurred along the Big Muddy River at and near Plumfield. Riverside access roads and low-lying fields were flooded.

ALEXANDER COUNTY --- 1.9 SE CAIRO [36.98, -89.15], 2.3 ESE CAIRO [36.99, -89.14], 1.3 E CAIRO [37.00, -89.16], 1.2 ESE CAIRO [36.99, -89.16]

06/04/13 16:00 CST	0	Flood (due to Heavy Rain)
06/20/13 03:00 CST	50K	Source: River/Stream Gage

Minor flooding occurred along the Ohio River near Cairo. Low-lying agricultural land, state parkland, and river access roads were flooded. Many farmers had not yet planted due to the prolonged spring flooding, so crop losses were minimal.

June turned out to be a very wet month across the region with many places 3 to 5 inches above normal. Heavy rain fell during the first two days of June and was scattered during the last half of the month. Many places saw more than 5 inches of rain fall for the month, and Paducah, KY recorded 9.11 inches. This was the fourth wettest June on record at Paducah. On the first, a daily record rainfall occurred at Paducah, where over 5.5 inches fell. The heavy rainfall across the Mississippi Valley and Lower Ohio Valley during the last few days of May and first couple days of June sent many rivers rising. Major flooding occurred on portions of the Mississippi River. Minor flooding occurred on portions of other smaller rivers. Flooding on the lowest part of the Ohio River was mainly backwater due to flooding on the Mississippi. The smaller rivers were back below flood stage fairly quickly, while the bigger rivers took most of the month to fall.

FRANKLIN COUNTY --- 2.9 S PLUMFIELD [37.84, -89.01]

06/17/13 12:15 CST	20K	Thunderstorm Wind (EG 52 kt)
06/17/13 12:15 CST	0	Source: Trained Spotter

Thunderstorm winds tore the soffit off a garage and threw big waste cans about one-quarter mile. Several trees were snapped, a stop sign was damaged, and large branches were downed. A tree fell on a garage. The damage path was approximately 1 1/2 miles to 2 miles long. The damage occurred about one-half mile north of the Williamson County line and two miles west of Interstate 57.

MASSAC COUNTY --- 2.1 SSE ROUND KNOB [37.22, -88.73]

06/17/13 13:20 CST	30K	Thunderstorm Wind (EG 52 kt)
06/17/13 13:20 CST	0	Source: Trained Spotter

A church under construction was blown down. Most of the framing had been erected.

Thunderstorms developed and remained quasi-stationary in association with a surface low pressure center over the Mississippi River between St. Louis, Missouri and Cairo, Illinois. The storms were the result of the combination of the surface low, daytime heating, and a very moist atmosphere with precipitable water values approaching two inches. The storms were further enhanced by a 500 mb shortwave trough over southwest Missouri.

FRANKLIN COUNTY --- 2.0 E WEST FRANKFORT [37.90, -88.88]

06/23/13 15:05 CST	16K	Thunderstorm Wind (EG 52 kt)
06/23/13 15:05 CST	0	Source: Newspaper

A few trees were uprooted. Several large tree limbs and power lines were knocked down. A camper was damaged.

FRANKLIN COUNTY --- WEST FRANKFORT [37.90, -88.92], THOMPSONVILLE [37.92, -88.77]

06/23/13 15:25 CST	10K	Heavy Rain
06/23/13 16:30 CST	0	Source: Emergency Manager

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About six inches of water was over Highway 149 in places. Several back roads were impassable, and a few residents reported water getting into homes. Around 2.5 inches of rain was received during this event.				
PERRY COUNTY --- CUTLER [38.03, -89.57]				
	06/23/13 19:20 CST		0	Heavy Rain
	06/23/13 21:00 CST		0	Source: Trained Spotter
Route 150 west of Cutler was under about six inches of water. Three inches of water was over the road on the other side of town.				
Thunderstorms developed in a warm southerly wind flow ahead of low pressure over the Plains states. The storms were enhanced by a weak mid-level shortwave trough over the Lower Ohio Valley.				
JEFFERSON COUNTY --- 0.5 NW (MVN)MT VERNON ARPT [38.32, -88.88]				
	06/26/13 15:05 CST		30K	Thunderstorm Wind (EG 56 kt)
	06/26/13 15:05 CST		0	Source: Trained Spotter
Numerous large trees were downed along the northwest side of the Mount Vernon airport. Power lines were brought down in the neighborhood. County Road 1380 North was blocked by a downed tree.				
JEFFERSON COUNTY --- 1.2 NNW DIX [38.45, -88.94]				
	06/26/13 15:15 CST		0	Funnel Cloud
	06/26/13 15:15 CST		0	Source: Law Enforcement
Illinois State Police reported a funnel cloud along Route 37 at the Marion County line.				
PERRY COUNTY --- DU QUOIN [38.02, -89.23]				
	06/26/13 17:45 CST		4K	Thunderstorm Wind (EG 52 kt)
	06/26/13 17:45 CST		0	Source: Trained Spotter
Numerous tree limbs were blown down. The limbs ranged from 2 to 6 inches in diameter.				
UNION COUNTY --- ALTO PASS [37.57, -89.33]				
	06/26/13 18:50 CST		0.20M	Thunderstorm Wind (EG 83 kt)
	06/26/13 18:50 CST		0	Source: Broadcast Media
At least 15 trees, some of which were very large, were blown down. About ten houses were damaged by falling trees. Some of these houses sustained major damage. There were also vehicles damaged by falling trees.				
A persistent cluster of thunderstorms intensified as it moved into a moist and very unstable air mass over southwest Indiana. The cluster of storms slowly expanded into a large mesoscale convective system that covered southern Illinois, western Kentucky, and the Mississippi River counties of extreme southeast Missouri. The convective system was supported by mid-level forcing associated with a weak disturbance, along with a low-level inflow of warmer air from the southwest. Modest westerly wind flow through the depth of the atmosphere increased the risk of potentially damaging winds.				
WABASH COUNTY --- 1.5 E MT CARMEL [38.42, -87.74], 2.0 NE MT CARMEL [38.44, -87.74], 1.6 NE MT CARMEL [38.44, -87.75], 1.1 ENE MT CARMEL [38.42, -87.75]				
	06/29/13 01:00 CST		4K	Flood (due to Heavy Rain)
	06/30/13 23:59 CST		20K	Source: River/Stream Gage
Minor flooding occurred along the Wabash River in the Mount Carmel area. Many river cabins became inaccessible. Oil field producers stopped most production where pumping units were not on substructures. A county road along the river north of Mount Carmel flooded. Some cropland was flooded. The flooding continued into early July.				
WHITE COUNTY --- MAUNIE [38.03, -88.05], 0.9 E MAUNIE [38.03, -88.03], 2.2 E MAUNIE [38.03, -88.01], 1.2 NNE RISING SUN [38.02, -88.03]				
	06/30/13 15:00 CST		0	Flood (due to Heavy Rain)
	06/30/13 23:59 CST		20K	Source: River/Stream Gage
Minor flooding occurred along the Wabash River. Some cropland was flooded, along with a few county roads. The flooding continued into early July.				
A very heavy rainfall event occurred in late June in portions of the Wabash Valley, including west central Indiana. In a 24-hour period from the evening of the 25th through the evening of the 26th, torrential rains of 3 to nearly 8 inches fell in upper portions of the Wabash basin. Severe flash flooding followed in portions of those areas. Flash flooding during the 26th quickly transitioned into lowland river flooding along portions of the Lower Wabash River.				

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FRANKLIN COUNTY --- CHRISTOPHER [37.97, -89.05]				
	06/29/13 16:17 CST		15K	Thunderstorm Wind (EG 52 kt)
	06/29/13 16:17 CST		0	Source: Trained Spotter
Several large tree limbs were blown down, and one tree was uprooted along Highway 148 through town. A few shingles were blown off houses.				
WHITE COUNTY --- CROSSVILLE [38.17, -88.07]				
	06/29/13 16:26 CST		0	Hail (0.88 in)
	06/29/13 16:30 CST		0	Source: Trained Spotter
JACKSON COUNTY --- DE SOTO [38.82, -89.23]				
	06/29/13 16:29 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/29/13 16:29 CST		0	Source: Trained Spotter
A trained spotter estimated a wind gust to 60 mph. The top of a tree was snapped off.				
Scattered thunderstorms developed in the vicinity of an unseasonably strong low in the upper levels of the atmosphere. This upper-level low was centered over Illinois and Indiana. A couple of the storms became severe as daytime heating destabilized the atmosphere. A secondary cold front that extended westward from a low pressure center over southern Ohio provided additional support for the storms.				
INDIANA, Southwest				
GIBSON COUNTY --- FRANCISCO [38.33, -87.45]				
	06/24/13 00:00 CST		0	Heavy Rain
	06/24/13 12:00 CST		0	Source: Trained Spotter
A spotter measured 2.05 inches of rain in the morning and early afternoon. Flood-prone low-lying areas were inundated, including secondary roads.				
POSEY COUNTY --- POSEYVILLE [38.17, -87.78]				
	06/24/13 00:00 CST		0	Heavy Rain
	06/24/13 08:00 CST		0	Source: Trained Spotter
The early morning rainfall total was 2.62 inches.				
VANDERBURGH COUNTY --- 3.9 S SMYTHE [37.94, -87.47]				
	06/24/13 00:00 CST		0	Heavy Rain
	06/24/13 13:28 CST		0	Source: Trained Spotter
A storm-total rainfall of 5.30 inches was measured at Angel Mounds, just southeast of Evansville.				
WARRICK COUNTY --- 2.6 SW BOONVILLE [38.02, -87.30]				
	06/24/13 00:00 CST		0	Heavy Rain
	06/24/13 13:02 CST		0	Source: COOP Observer
A co-operative observer reported a storm-total rainfall of 5.03 inches.				
VANDERBURGH COUNTY --- 1.5 S BELKNAP [37.96, -87.68]				
	06/24/13 08:10 CST		0	Hail (0.88 in)
	06/24/13 08:10 CST		0	Source: Public
Nickel-size hail was reported at the University of Southern Indiana campus a couple miles west of Evansville.				
VANDERBURGH COUNTY --- DAYLIGHT [38.10, -87.48], 4.3 SE EVANSVILLE [37.93, -87.50], 1.4 E HOWELL [37.97, -87.61], 0.7 W HILLSDALE [38.08, -87.56]				
	06/24/13 10:17 CST		0	Flash Flood (due to Heavy Rain)
	06/24/13 13:00 CST		0	Source: Emergency Manager

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
Widespread street flooding occurred. Numerous water rescues were reported in Evansville, primarily in east and northeast sections of the city. Vehicles were stuck in floodwaters. Three persons were rescued from one vehicle. A heavily used viaduct was inundated and impassable in the central part of the city. An exit ramp off the Lloyd Expressway to Green River Road was flooded. Other roadways in the area were flooded. Ditches were overflowing and parking lots were flooded. At the Evansville airport, 2.38 inches of rain fell in one hour. The daily total was 4.10 inches.				
WARRICK COUNTY --- NEWBURGH [37.95, -87.42], 1.0 WSW NEWBURGH [37.94, -87.44], 1.6 NNW NEWBURGH [37.97, -87.44], 1.5 N NEWBURGH [37.97, -87.42]				
	06/24/13 10:17 CST		0	Flash Flood (due to Heavy Rain)
	06/24/13 13:00 CST		0	Source: Trained Spotter
Widespread street flooding was reported in Newburgh, including many subdivision roads. Ditches were overflowing. A spotter measured 2.02 inches in six hours, and 4.84 inches for the day.				
Storms developed in a deep south to southwest wind flow of warm and moist air on the back side of high pressure over the Southeast U.S. coast.				
PIKE COUNTY --- PETERSBURG [38.50, -87.28]				
	06/26/13 18:03 EST		0	Funnel Cloud
	06/26/13 18:03 EST		0	Source: Trained Spotter
There were several sightings of a rotating funnel cloud over Petersburg, including some from trained spotters. The parent supercell and its rotating wall cloud continued east across northeast Pike County.				
PIKE COUNTY --- OTWELL [38.45, -87.10], 0.6 ENE OTWELL [38.45, -87.09]				
	06/26/13 18:16 EST		20K	Tornado (EF1, L: 0.59 mi , W: 75 yd)
	06/26/13 18:17 EST		0	Source: Broadcast Media
A wooden equipment storage shed was destroyed. The shed was approximately 40 by 80 feet in size. Peak wind speeds were estimated near 100 mph. Trained spotters reported a funnel cloud of varying intensity, which would occasionally seem to dissipate and then re-form.				
GIBSON COUNTY --- 1.0 SW FRANCISCO [38.32, -87.46]				
	06/26/13 18:45 CST		0	Heavy Rain
	06/26/13 19:45 CST		0	Source: Trained Spotter
A trained spotter measured 1.57 inches of rain in one hour.				
GIBSON COUNTY --- 3.0 S PRINCETON [38.31, -87.57]				
	06/26/13 18:48 CST		0.10M	Thunderstorm Wind (EG 56 kt)
	06/26/13 18:48 CST		0	Source: Trained Spotter
Lots of trees were blown down. Large limbs were snapped off. Some of the trees and tree limbs produced damage to houses. The damage occurred on the west side of U.S. Highway 41 just north of County Road 350S.				
SPENCER COUNTY --- 1.0 W SANTA CLAUS [38.12, -86.92]				
	06/26/13 19:25 CST		0	Thunderstorm Wind (EG 52 kt)
	06/26/13 19:25 CST		0	Source: Public
A wind gust was estimated near 60 mph by the public.				
SPENCER COUNTY --- GRANDVIEW [37.93, -86.98], ROCKPORT [37.88, -87.05]				
	06/26/13 19:38 CST		20K	Thunderstorm Wind (MG 54 kt)
	06/26/13 19:45 CST		0	Source: Public
A wind gust to 62 mph was measured in Rockport. Trees and power lines were blown down in Grandview and Rockport.				
A persistent cluster of thunderstorms intensified as it moved into a moist and very unstable air mass over southwest Indiana. The storms were supported by mid-level forcing associated with a weak disturbance, along with a low-level inflow of warmer air from the southwest. Modest westerly wind flow through the depth of the atmosphere increased the risk of potentially damaging winds and isolated supercells.				
PIKE COUNTY --- PETERSBURG [38.50, -87.28], 3.3 NE PETERSBURG [38.53, -87.23], 2.8 NNE PETERSBURG [38.53, -87.25], 0.8 N PETERSBURG [38.51, -87.28]				
	06/27/13 13:00 EST		3K	Flood (due to Heavy Rain)
	06/30/13 23:59 EST		20K	Source: River/Stream Gage

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
Minor flooding occurred along the White River in the Petersburg area. Several Pike County roads were flooded, including the following county roads east of State Route 57: 750N, 600N, and 1000E. Pike County roads flooded west of SR 57 included: 250 W, 400W, 675N, 700N, 1000W, 900W, 700W, and 775W. Flooding affected low agricultural lands and low oil fields. The flooding continued into early July.				

GIBSON COUNTY --- 1.8 W HAZLETON [38.48, -87.56], 1.9 WNW HAZLETON [38.49, -87.56], 1.3 WNW HAZLETON [38.49, -87.55], 1.2 WNW HAZLETON [38.49, -87.55]

06/28/13 03:00 CST	1K	Flood (due to Heavy Rain)
06/30/13 23:59 CST	12K	Source: River/Stream Gage

Minor flooding occurred along the White River in the Hazleton area. Floodwaters covered low farmland. Low-lying oil fields and a few low rural roads were flooded. High water isolated a river cabin community. The flooding continued into early July.

GIBSON COUNTY --- 1.2 NNW EAST MT CARMEL [38.42, -87.74], 1.3 W EAST MT CARMEL [38.40, -87.75], 0.9 WSW EAST MT CARMEL [38.39, -87.75], 0.9 NNW EAST MT CARMEL [38.41, -87.73]

06/29/13 01:00 CST	5K	Flood (due to Heavy Rain)
06/30/13 23:59 CST	40K	Source: River/Stream Gage

Minor flooding occurred along the Wabash River in the East Mount Carmel area. Many river cabins became inaccessible. Oil field producers stopped most production where pumping units were not on substructures. A few river access roads along the river were flooded. Some cropland was flooded. The flooding continued into early July.

POSEY COUNTY --- NEW HARMONY [38.13, -87.93], 0.6 WNW NEW HARMONY [38.13, -87.94], 1.0 NNE NEW HARMONY [38.14, -87.92], 1.7 N NEW HARMONY [38.16, -87.93], 1.6 NNE NEW HARMONY [38.15, -87.92]

06/30/13 15:00 CST	5K	Flood (due to Heavy Rain)
06/30/13 23:59 CST	40K	Source: River/Stream Gage

Minor flooding occurred along the Wabash River in and near New Harmony. A few river access roads along the river were flooded. Some cropland was flooded. The flooding continued into early July.

The largest rainfall event in Indiana during June occurred in west central and south central Indiana. In a 24-hour period from the evening of the 25th through the evening of the 26th, torrential rains of 3 to nearly 8 inches fell. Severe flash flooding followed in portions of those areas. Flash flooding during the 26th quickly transitioned into lowland river flooding along portions of the Lower White and Wabash Rivers. River flooding continued into early July along portions of the lowest reaches of the White and Wabash Rivers in southwest Indiana.

WARRICK COUNTY --- BOONVILLE [38.05, -87.27]

06/30/13 13:45 CST	0	Heavy Rain
06/30/13 15:00 CST	0	Source: Unknown

Water was reported over a couple of intersections.

Thunderstorms with very heavy rain occurred beneath an unseasonably strong upper-level low as it meandered across the Lower Ohio Valley.

KENTUCKY, Southwest

WEBSTER COUNTY --- POOLE [37.63, -87.65], DIXON [37.52, -87.70]

06/01/13 02:05 CST	10K	Thunderstorm Wind (EG 52 kt)
06/01/13 02:05 CST	0	Source: Emergency Manager

Trees and power lines were down in the Dixon and Poole areas. Highway 41A was down to one lane 1.5 miles south of Poole due to a power line down.

WEBSTER COUNTY --- ONTON [37.55, -87.43]

06/01/13 02:15 CST	40K	Thunderstorm Wind (EG 61 kt)
06/01/13 02:15 CST	0	Source: Emergency Manager

A roof was blown off a home, and there was other damage to the structure. Several trees and power lines were blown down in the same area.

MCCRACKEN COUNTY --- LONE OAK [37.03, -88.67], REIDLAND [37.02, -88.53], PADUCAH [37.08, -88.63], BARKLEY ARPT [37.07, -88.77], CAMMELIA [37.02, -88.78]

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	06/01/13 03:39 CST		1.50M	Flash Flood (due to Heavy Rain)
	06/01/13 07:40 CST		0	Source: Emergency Manager

A major flash flood produced millions of dollars in damage in McCracken County. The flooding started out as significant street flooding two to three feet deep in the usual problem spots in the city of Paducah. The railroad underpass at U.S. Highways 62 and 45 in Paducah was closed. The flooding steadily increased to include low-lying sections of numerous roads throughout the county, some of which were impassable. At least three vehicles drove into floodwaters, becoming completely submerged and requiring assistance from rescue boats. Numerous other vehicles stalled out in floodwaters. The swift water rescue team rescued about 30 people from flooded cars and buildings. Creeks and streams rose far outside of their banks, inundating homes and businesses. An apartment complex in Paducah was flooded by up to several feet from Crooked Creek, along with roads and parking lots. Twenty to thirty residents of the apartment complex were evacuated. Perkins Creek flooded the business strip near the Interstate 24 exit to U.S. 60. A couple of hotels were flooded, and restaurants were inaccessible. Seventy units of one hotel were damaged. Water rescue teams evacuated three residences that were surrounded by water, stranding the occupants. Street and road flooding became widespread across the county, making travel very difficult or impossible. Vehicles were flooded in parking lots on the south side of Paducah. Several county roads were washed out or heavily damaged. A rainfall amount of 4.68 inches was measured in just three hours at the National Weather Service office at Barkley Regional Airport.

TRIGG COUNTY --- ROCKCASTLE [36.90, -87.97]

06/01/13 04:00 CST	0	Heavy Rain
06/01/13 08:54 CST	0	Source: Trained Spotter

A total of 3.70 inches of rainfall was measured in 5 hours at Rockcastle. Water was over various highways, including U.S. 68 between the 11 and 12 mile markers. This is near the entrance to Lake Barkley State Park.

LIVINGSTON COUNTY --- GRAND RIVERS [37.00, -88.23], CARRSVILLE [37.40, -88.38]

06/01/13 05:00 CST	0	Heavy Rain
06/01/13 11:00 CST	0	Source: Department of Highways

Water was over the following highways in Livingston County: Kentucky Highway 937 between the 1 and 2 mile markers, Kentucky 1433 between the 4 and 5 mile markers, and Kentucky 723 between the 5 and 6 mile markers.

BALLARD COUNTY --- LOVELACEVILLE [36.97, -88.82], WICKLIFFE [36.97, -89.08], BARLOW [37.05, -89.05], LA CENTER [37.07, -88.98], KEVIL [37.08, -88.90]

06/01/13 05:10 CST	0.10M	Flash Flood (due to Heavy Rain)
06/01/13 07:40 CST	0	Source: Trained Spotter

In La Center, flash flooding damaged three businesses along U.S. Highway 60. A storage building, propane company, and insurance company were flooded to a depth of approximately 5 to 8 inches. Water in parts of a parking lot was over four feet deep. Water at one point flooded over the top of a 500-gallon tank. Several vehicles were stranded in at least two feet of floodwater across U.S. Highway 62 near Lovelaceville. Highway 2532 near Kevil was closed due to at least one-half foot of flowing water across it.

MARSHALL COUNTY --- CALVERT CITY [37.03, -88.35], GILBERTSVILLE [37.02, -88.28], 1.0 SSW GILBERTSVILLE [37.01, -88.29], 0.8 SW CALVERT CITY [37.02, -88.36]

06/01/13 05:18 CST	0	Flash Flood (due to Heavy Rain)
06/01/13 07:20 CST	0	Source: Trained Spotter

Floodwater was up to 2.5 feet high on a secondary road in Gilbertsville. Another secondary road was also flooded.

CALLOWAY COUNTY --- HAZEL [36.50, -88.32], 0.9 SSW STELLA [36.64, -88.39]

06/01/13 06:50 CST	0	Heavy Rain
06/01/13 11:00 CST	0	Source: Trained Spotter

South of Murray, water was running across U.S. Highway 641 in three different locations. One vehicle was in the ditch. Flooding occurred at the intersection of Kentucky Highways 94 and 1660 and at several spots along Kentucky 121 in the county.

CARLISLE COUNTY --- ARLINGTON [36.78, -89.02], MILBURN [36.80, -88.88], CUNNINGHAM [36.92, -88.88], BARDWELL [36.87, -89.02]

06/01/13 08:21 CST	0	Flood (due to Heavy Rain)
06/01/13 13:00 CST	0	Source: Law Enforcement

Highway 80 was closed due to flooding in the community of Arlington. Water was approaching the front porches of many homes. There were unofficial reports of over six inches of rain in farmers' rain gages in Carlisle County. Carlisle County highway crews reported water over roadways in so many places that they were having difficulty getting signs up. U.S. Highway 62 was among the roads covered by water.

HICKMAN COUNTY --- 1.7 WNW CLINTON [36.68, -89.01], 2.0 WSW CLINTON [36.65, -89.01], 0.3 NNE FULHAM [36.65, -88.87], 1.3 N FULHAM [36.67, -88.87]

Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/01/13 08:30 CST		0	Flood (due to Heavy Rain)
	06/01/13 12:00 CST		0	Source: Department of Highways

Kentucky Highway 58 was closed by floodwaters at the 10 mile marker near Clinton. Kentucky 1820 was closed by floodwaters at the Graves-Hickman County line.

CHRISTIAN COUNTY --- 2.3 WNW GRACEY [36.89, -87.69], 1.9 W GRACEY [36.87, -87.68], 1.4 ESE GRACEY [36.86, -87.63], 0.8 NE GRACEY [36.88, -87.64]

06/01/13 09:00 CST	0	Flood (due to Heavy Rain)
06/01/13 12:00 CST	0	Source: Unknown

Some street flooding and flooding of fields was reported in Gracey.

A mesoscale convective system that originated over the Missouri Ozarks maintained strength as it moved through the middle Mississippi Valley during the overnight hours. The system slowed down and then stalled as it crossed the Lower Ohio Valley very early in the morning. The stalled thunderstorm complex produced major flash flooding across parts of western Kentucky.



Extensive flash flooding of Perkins Creek inundated this hotel along the U.S. Highway 60 business strip near Interstate 24. Several restaurants and hotels in the vicinity of exit 4 off Interstate 24 were impacted by the flooding. Photo courtesy of McCracken County Emergency Management.

MUHLBERG COUNTY --- 1.9 WNW EBENEZER [37.21, -87.11], BEECHMONT [37.18, -87.03], BELTON [37.15, -87.03], 3.6 SSE GREENVILLE [37.16, -87.15], 0.7 E LUZERNE [37.22, -87.21]

06/06/13 00:30 CST	0.20M	Flash Flood (due to Heavy Rain)
06/06/13 06:00 CST	0	Source: Law Enforcement

Rapidly rising floodwaters inundated some buildings in Greenville, including a rest home. The rest home was sandbagged after a couple inches of water entered the facility. Some roads in Greenville were flooded. At least one house was isolated by floodwaters in the Belton area, prompting an evacuation. Numerous roads were flooded and impassable in the Beechmont and Belton areas along U.S. Highway 431. Impassable roads included portions of U.S. Highway 431, as well as State Routes 70, 2270, and 1163. At least one vehicle was stranded. About ten homes were flooded. Luzerne Lake flooded portions of Kentucky Highways 601 and 189. Floodwaters threatened a power substation.

A surface low pressure center moved northeast along the Ohio River. Thunderstorms in the warm sector of this low produced isolated flash flooding in western Kentucky. The storms were aided by an upper-level low over the Great Lakes region with a shortwave trough extending south along the Mississippi Valley.

Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
CHRISTIAN COUNTY --- HOPKINSVILLE [36.85, -87.48]				
	06/16/13 17:50 CST		0	Lightning
	06/16/13 17:50 CST	1	0	Source: Trained Spotter
A man received non life-threatening injuries when he was struck by lightning on a golf course. One of his socks was burned. He was transported to a local hospital.				
A thunderstorm with intense lightning passed across the Hopkinsville area. The storm occurred ahead of a cold front that was crossing Missouri and Illinois.				
FULTON COUNTY --- FULTON [36.52, -88.87]				
	06/17/13 12:00 CST		0	Heavy Rain
	06/17/13 12:45 CST		0	Source: Trained Spotter
Water was reported over some roads.				
CARLISLE COUNTY --- BARDWELL [36.87, -89.02]				
	06/17/13 12:49 CST		0	Hail (0.75 in)
	06/17/13 12:49 CST		0	Source: Public
MCCRACKEN COUNTY --- PADUCAH [37.08, -88.63], REIDLAND [37.02, -88.53]				
	06/17/13 13:30 CST		0	Heavy Rain
	06/17/13 15:00 CST		0	Source: Public
Water was over the road on U.S. Highway 62 between Paducah and Reidland. There was extensive flooding of parking lots in shopping areas on the south side of Paducah. The water was generally less than a foot deep. A flood-prone secondary road along Champion Creek in the Hendron area was impassable. Other roads in the Hendron area were covered by around three inches of water. The flood-prone intersection at U.S. 62 and Highway 286 was impassable. There was an unofficial report from a Paducah television station of 2.5 inches in about an hour.				
DAVIESS COUNTY --- 3.0 WNW OWENSBORO [37.79, -87.17]				
	06/17/13 14:05 CST		0	Hail (0.75 in)
	06/17/13 14:05 CST		0	Source: Public
Hail was partially covering the ground.				
DAVIESS COUNTY --- 2.5 NNW (OWB)OWENSBORO ARPT [37.78, -87.19]				
	06/17/13 14:20 CST		0	Hail (0.88 in)
	06/17/13 14:20 CST		0	Source: Trained Spotter
DAVIESS COUNTY --- OWENSBORO [37.77, -87.12]				
	06/17/13 14:37 CST		0	Hail (0.88 in)
	06/17/13 14:37 CST		0	Source: Broadcast Media
DAVIESS COUNTY --- OWENSBORO [37.77, -87.12]				
	06/17/13 15:20 CST		0	Heavy Rain
	06/17/13 17:00 CST		0	Source: Trained Spotter
Water was reported up to three inches deep over roads.				
HENDERSON COUNTY --- HENDERSON [37.83, -87.58]				
	06/17/13 16:30 CST		0	Heavy Rain
	06/17/13 18:00 CST		0	Source: Trained Spotter
Water was up to five inches deep on several roads.				
Thunderstorms developed and remained quasi-stationary in association with a surface low pressure center over the Mississippi River between St. Louis, Missouri and Cairo, Illinois. The storms were the result of the combination of the surface low, daytime heating, and a very moist atmosphere with precipitable water values approaching two inches. The storms were further enhanced by a 500 mb shortwave trough over southwest Missouri.				

Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
HOPKINS COUNTY --- 2.2 NE CARBONDALE [37.24, -87.55], 1.0 N PEE VEE [37.31, -87.55], 1.1 ESE WICKS WELL [37.36, -87.53], 2.3 N EAST DIAMOND [37.36, -87.45], 2.7 E OAK HILL [37.23, -87.42]				
	06/24/13 10:00 CST		0.50M	Flash Flood (due to Heavy Rain)
	06/24/13 13:00 CST		0	Source: Trained Spotter
<p>The Madisonville city fire department evacuated or rescued numerous drivers from flooded vehicles at a mall parking lot. Police officers in boats checked businesses and vehicles in the mall area, which is on the east side of the city along Interstate 69. Water was over the hood of at least one vehicle. At least five homes were flooded in a residential area along a flooded ditch on the southeast side of town. Police officers went door-to-door contacting and evacuating affected residents, and a water rescue was in progress. Boats were requested to get to stranded motorists. The strong currents carried a car to deeper water. Highway 70 was flooded and closed from downtown Madisonville to the mall entrance on the east side of town. Cars were stranded on Highway 70. Four to six inches of running water covered Highway 70 on the southwest side of Madisonville. The road was not passable. In Mortons Gap, six inches of water was over one lane of U.S. Highway 41. Water approached houses on Highway 813 in Mortons Gap. The Interstate 69 on-and-off ramps at exit 37 were flooded near Mortons Gap. In Madisonville, a section of U.S. Highway 41 was closed. Areas between Kentucky Highways 254 and 281 were flooded on the east side of Madisonville, including a subdivision. Boats were dispatched to get stranded people out of vehicles and houses. A water rescue was conducted in a mobile home park. The Kentucky mesonet site four miles south of Madisonville measured 5.92 inches of rain.</p> <p>Storms developed in a deep south to southwest wind flow of warm and moist air on the back side of high pressure over the Southeast U.S. coast.</p>				
HENDERSON COUNTY --- SPOTTSVILLE [37.85, -87.42], BEALS [37.87, -87.40]				
	06/26/13 20:35 CST		0	Funnel Cloud
	06/26/13 20:35 CST		0	Source: Trained Spotter
Trained spotters reported a funnel cloud near Spottsville and Beals.				
TRIGG COUNTY --- 1.0 W ROCKCASTLE [36.90, -87.99]				
	06/26/13 20:45 CST		10K	Thunderstorm Wind (EG 52 kt)
	06/26/13 20:45 CST		0	Source: Trained Spotter
Trees were blown down.				
CHRISTIAN COUNTY --- 2.1 NNW MERRITTSTOWN [36.88, -87.58]				
	06/26/13 21:02 CST		0	Hail (0.75 in)
	06/26/13 21:02 CST		0	Source: Trained Spotter
Dime-size hail was reported on U.S. Highway 68 west of Hopkinsville.				
<p>A persistent cluster of thunderstorms intensified as it moved into a moist and very unstable air mass over southwest Indiana. The cluster of storms slowly expanded into a large mesoscale convective system that covered southern Illinois, western Kentucky, and the Mississippi River counties of extreme southeast Missouri. The convective system was supported by mid-level forcing associated with a weak disturbance, along with a low-level inflow of warmer air from the southwest. The thunderstorm complex produced gusty winds, small hail, and an isolated funnel cloud over western Kentucky.</p>				
HENDERSON COUNTY --- ROBARDS [37.67, -87.55], NIAGARA [37.72, -87.48]				
	06/30/13 13:45 CST		0	Heavy Rain
	06/30/13 15:00 CST		0	Source: Unknown
Water was reported over a couple of intersections in Robards and Niagara.				
Thunderstorms with very heavy rain occurred beneath an unseasonably strong upper-level low as it meandered across the Lower Ohio Valley.				
MISSOURI, Southeast				
CAPE GIRARDEAU COUNTY --- 3.3 E (CGI)CAPE GIRARDEAU [37.23, -89.51], 0.5 NW GULF JCT [37.27, -89.56], 1.2 SSE CAPE GIRARDEAU [37.28, -89.52], 3.6 ESE GULF JCT [37.25, -89.49]				
	06/01/13 00:00 CST		0.10M	Flood (due to Heavy Rain)
	06/25/13 21:00 CST		0.10M	Source: River/Stream Gage

Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
Major flooding occurred on the Mississippi River in the Cape Girardeau area. There was extensive flooding of low-lying agricultural land, riverside parks, and river access roads. Floodwaters backed up creeks and diversion channels across southern parts of Cape Girardeau County, threatening areas along Highway 74 out to Dutchtown. Crews built an emergency levee along Highway 74 near Highway 25 to protect Dutchtown. Highways 74 and 25 were closed. Many homes in Cape Girardeau County were affected, and evacuations were required. Most of the affected houses were in rural areas of Cape Girardeau County along tributary creeks that were swollen by Mississippi River backwater. The city of Cape Girardeau is protected by floodwalls and levees. Over 100,000 acres of farmland were flooded. Numerous roads were closed. Many farmers had not yet planted due to the prolonged spring flooding, so crop losses were minimal. The river crested at 44.53 feet on the Cape Girardeau river gage on the evening of the 6th. This was the 8th highest crest on record, about 1.8 feet lower than the flood of 2011. Flood stage is 32 feet.				

SCOTT COUNTY --- COMMERCE [37.15, -89.45], 1.3 ESE ILLMO [37.21, -89.48], 1.9 ESE ILLMO [37.21, -89.47], 1.1 ENE COMMERCE [37.16, -89.43]		
06/01/13 00:00 CST	50K	Flood (due to Heavy Rain)
06/25/13 22:00 CST	0.10M	Source: River/Stream Gage

Major flooding occurred along the Mississippi River. There was extensive flooding of low-lying farm fields, and many county roads were closed.

Heavy rainfall across the Mississippi Valley during the last few days of May and first couple days of June sent the Mississippi River rising. Major flooding occurred on portions of the Mississippi River.

BUTLER COUNTY --- 1.1 SE POPLAR BLUFF [36.74, -90.38], 1.3 ESE POPLAR BLUFF [36.74, -90.38], 2.5 SSW (P02)POPLAR BLUFF AR [36.73, -90.34], 4.3 W BATESVILLE [36.70, -90.33], 2.5 W BROSELEY [36.67, -90.29], 1.3 WNW QULIN [36.61, -90.29], 3.0 W QULIN [36.61, -90.32]		
06/02/13 03:00 CST	20K	Flood (due to Heavy Rain)
06/03/13 01:00 CST	50K	Source: River/Stream Gage

Minor flooding occurred along the Black River. Low-lying fields and woodlands were flooded, including some farm fields. The river crested about one foot above the 16-foot flood stage. Just south of Highway 53 on the west bank of the river, a small levee breach resulted in minor flooding of farmland around County Road 2024.

RIPLEY COUNTY --- 2.3 WNW DONIPHAN [36.63, -90.86], 1.4 WSW DONIPHAN [36.61, -90.84], 0.7 SW DONIPHAN [36.61, -90.83], 1.8 WNW DONIPHAN [36.63, -90.85]

06/03/13 06:00 CST	3K	Flood (due to Heavy Rain)
06/03/13 15:00 CST	0	Source: River/Stream Gage

Minor flooding occurred on the Current River at Doniphan. Low-lying fields, woodlands, and river access roads were flooded.

June turned out to be a very wet month across the region with many places 3 to 5 inches above normal. Heavy rain fell during the first two days of June and was scattered during the last half of the month. Many places saw more than 5 inches of rain fall for the month. The heavy rainfall across the Mississippi Valley during the last few days of May and first couple days of June sent many rivers rising. Minor flooding occurred on portions of smaller rivers, such as the Current and Black Rivers.

CAPE GIRARDEAU COUNTY --- CAPE GIRARDEAU [37.30, -89.53], 2.5 NW MARQUETTE [37.30, -89.60], 4.7 ESE JACKSON [37.35, -89.59], 2.4 NNE CAPE GIRARDEAU [37.33, -89.51]			
06/17/13 11:50 CST	0.20M	Flash Flood (due to Heavy Rain)	
06/17/13 14:00 CST	0	Source: Trained Spotter	

Flash flooding occurred at numerous major intersections throughout the city. Numerous vehicles were stranded on flooded streets, including at least one that floated away. A vehicle with several occupants nosedived into a creek. All the occupants were rescued safely. A total of 16 to 20 emergency responses were for flooded vehicles. One man was swept into a ditch but was unharmed. The Westerior/Silver Spring area was hardest hit by the flash flooding. An arena was flooded. At least several homes sustained some water damage. Rainfall rates were measured at nearly one inch per 30 minutes. Slow-moving thunderstorms trained northward across the city.

Thunderstorms developed and remained quasi-stationary in association with a surface low pressure center over the Mississippi River between St. Louis, Missouri and Cairo, Illinois. The storms were the result of the combination of the surface low, daytime heating, and a very moist atmosphere with precipitable water values approaching two inches. The storms were further enhanced by a 500 mb shortwave trough over southwest Missouri.

PERRY COUNTY --- 4.5 WNW LITHIUM [37.85, -89.96]			
06/26/13 18:00 CST	0	Hail (0.88 in)	
06/26/13 18:00 CST	0	Source: SHAVE Project	

PERRY COUNTY --- PERRYVILLE [37.72, -89.87]			
06/26/13 18:12 CST	0	Hail (1.25 in)	
06/26/13 18:12 CST	0	Source: Public	

Hail ranging from quarter to half-dollar size was reported.

Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
CAPE GIRARDEAU COUNTY --- 5.0 W OLD APPLETON [37.58, -89.81], 1.5 N DAISY [37.54, -89.80]				
	06/26/13 18:50 CST		0	Funnel Cloud
	06/26/13 18:57 CST		0	Source: Emergency Manager

The funnel cloud was observed by at least one trained spotter and a sheriff deputy. The sheriff deputy observed the funnel from Interstate 55. A cell phone video was taken at an Interstate 55 exit showing a rope-like funnel cloud.

CAPE GIRARDEAU COUNTY --- 1.0 NNW JACKSON [37.39, -89.68], 2.0 S JACKSON [37.35, -89.67]				
	06/26/13 19:10 CST		0	Funnel Cloud
	06/26/13 19:24 CST		0	Source: Trained Spotter


A rotating funnel cloud and wall cloud moved south-southeast across central Cape Girardeau County, passing across the Jackson area. The funnel cloud was videotaped and photographed by at least a few people. Trained spotters and emergency management personnel did not observe any touchdowns.

CAPE GIRARDEAU COUNTY --- 3.0 WNW CAPE GIRARDEAU [37.32, -89.58]				
	06/26/13 19:34 CST		0	Funnel Cloud
	06/26/13 19:34 CST		0	Source: Trained Spotter

The funnel cloud was associated with the supercell as it rapidly weakened near Cape Girardeau.

A supercell thunderstorm developed over Perry County, producing large hail up to half-dollar size. The storm then acquired strong rotation as it moved south-southeast into Cape Girardeau County. A well-developed wall cloud and funnel cloud formed as the storm crossed from Perry County into Cape Girardeau County. These features persisted until the storm began to dissipate over southern Cape Girardeau County just west of Cape Girardeau. This supercell developed along the western edge of an expanding mesoscale convective system that started as a persistent cluster of thunderstorms over southwest Indiana. The convective system was supported by mid-level forcing associated with a weak disturbance, along with a low-level inflow of warmer air from the southwest. Modest westerly wind flow through the depth of the atmosphere increased the risk of potentially damaging winds and isolated supercells.

Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
				

A well-defined wall cloud moved south-southeast across nearly the entire length of Cape Girardeau County. This wall cloud frequently produced a funnel cloud. This photo was taken at Jackson, Missouri by Craig Hasheider.

CARTER COUNTY --- 5.0 W VAN BUREN [37.00, -91.11], 2.0 E VAN BUREN [37.00, -90.98]				
	06/28/13 02:40 CST	10K		Thunderstorm Wind (EG 52 kt)
	06/28/13 02:55 CST	0		Source: Emergency Manager

A few trees and numerous tree limbs were blown down countywide. M Highway was blocked by a tree near Van Buren.

A thunderstorm complex moved east-southeast from south central Missouri across the Ozark foothills of southeast Missouri. West-northwest winds of 35 to 40 knots in the mid levels of the atmosphere enhanced the potential for isolated damaging wind gusts. Steep lapse rates in the mid levels of the atmosphere combined with rich low level moisture supported the maintenance of the forward propagating convective system.